GARY R. HERBERT
Governor
GREG BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Water Rights
KENT L. JONES
State Engineer/Division Director

February 19, 2013

RE: Stream Channel Alteration No. 13-81-05SA
Virgin River
Tristan DeMille

Attached is a copy of an application to alter a natural stream, which has been submitted to the Division of Water Rights (Division) for processing.

In processing this application, the Division will work to determine if the project will:

- Unreasonably or unnecessarily affect any recreational use or the natural stream environment;
- Unreasonably or unnecessarily endanger aquatic wildlife;
- Unreasonably or unnecessarily diminish the natural channel's ability to convey high flows; or
- Impair vested water rights.

Any decision made regarding this application will be based exclusively on these four criteria. If you have information regarding these four criteria that will aid the Division in making a determination and subsequent decision, please submit this information, in writing, to this office prior to **March 11, 2013**. For questions or comments pertaining to all other aspects of the project, please contact the applicant listed on the front page of the application directly.

Sincerely,

Tiffany Gonzales
for Chuck Williamson, P.G.
Stream Alteration Specialist

Pc: Richard Clark - EPA
Corps of Engineers
Supervisor - U. S. Fish & Wildlife
Kurt Vest - Regional Engineer
Gary Bezzant - Regional Wildlife Habitat Manager
Carmen Bailey - Aquatic Habitat Coordinator
Bill Damery - DEQ, Water Quality Division
Laura Ault - Forestry Fire & State Lands
Kelly Beck - RDCC Coordinator
State Parks & Recreation
Lori Hunsaker - State History
W. D. Robinson - Department of Agriculture
Judy Watanabe - CEM

1594 West North Temple, Suite 220, PO Box 146300, Salt Lake City, UT 84114-6300
telephone (801) 538-7240 • facsimile (801) 538-7467 • TTY (801) 538-7458 • *www.waterrights.utah.gov*

UTAH DNR WATER RIGHTS

Rec. by CHWC
Fee Rec. $100
Receipt # 13-00511

JOINT PERMIT APPLICATION FORM

U.S ARMY CORPS OF ENGINEERS – FOR SECTIONS 404 AND 10
UTAH STATE ENGINEER'S OFFICE – FOR NATURAL STREAM CHANNELS

Application Number (assigned by): Corps / State Engineer 13-81-05SA

Applicant's Name (Last, First M.I. or entity if not an individual)	Authorized Applicant Representative (if any)	Applicant's Telephone Number and Area Code
DeMille, Tristan	Tristan DeMille	435-979-7648, or 435-896-8266
		Representative's Telephone Number and Area Code: 435-896-7648 or 435-896-8266

Applicant's Address (Street, RFD, Box, Number, City, State, Zip)

435 Pahvant Drive
Richfield, Utah 84701

PROJECT LOCATION X: 318456.40 Y: 4114321.50

Quarter Section(s)	Section	Township	Range	Base & Meridian
SE SW 1/4	1	42 So.	11 W	SLB &M

County	Associated Watercourse or Watercourse to be Altered	Check one: ■ Within City Limits ☐ Outside City Limits List town or nearest town:
Washington	Virgin River	Rockville Town

Project location or address:

E 250 South Grafton Road

Brief description of project including methods and equipment to be employed to complete the work:

The project includes the embankment protection of an area washed out in a flood in January 2011. Subsequent to the flood NRC realigned the river on the opposite bank of this proposed project and armored it with Rip Rap. The stream is now directed into the raw bank of the Tristan DeMille Property. The project is to place riprap with a loader and or track hoe from the bank of the stream. Currently the stream at low flow is about 20 to 50 feet from the bank being protected. The equipment will not enter the stream and work will not occur in the flowing water of the Virgin River. The water does not flow along this bank at normal and low flow events.

Purpose (justification) of project:

The current bank if not protected could result in the loss of not only my property but several property owners down stream and would make a major change in the channel of the river.

RECEIVED
FEB 08 2013
WATER RIGHTS
SALT LAKE

Is this a single and complete project or is part of a larger project, continuing project, or other related activities? If so, please describe the larger project or other related activities.

This is a single project

If project included the discharge of dredged or fill material into a watercourse or wetland:

Cubic yards of material:

Acreage or square footage of waters of the United States affected by the project:

Source and type of fill material:

Length of stream that will be impacted below ordinary high water elevation:

No, There will be about 400 Cubic Yards of rock material placed. About 80 lineal feet along the bank below the ordinary high water mark, and about 70 lineal feet placed on the no/so property line perpendicular to the channel. There are not anticipated impacts to the stream.

Alternatives (other ways to accomplish project purpose):

An alternative to the proposed riprap and plantings would be a gabion wall with plantings. There are not other feasible structures that will withstand the flood water of the Virgin River.

Describe any proposed mitigation to offset impacts to the stream channel.

Most of the riprap will be within the existing bank. Not flowing waters of the channel will be affected nor will work be completed in the River. Black willow, water willow, and cottonwood cuttings will be planted at the toe of the bank protection.

Cultural resource impacts:

Are you aware of any cultural resources or any historic properties that will be impacted by the proposed project? ☐ Yes ☐ No
If Yes, please explain:

Has a cultural resource survey been conducted on the property where the proposed project is to occur? ☐ Yes ☐ No
If Yes, please briefly explain the survey results:

I have not engaged anyone to complete an cultural resource study or survey. The NRCS would have completed one for the stream alteration permit they acquired for the riprap placed on the bank opposite of this proposed project. The property has been in the family for almost 100 years and the use has been farming and grazing. There are no known structures above or below grade. The property has been inundated at this location several times by 100 year event floods.

List other authorizations required by Federal, state, or local governments (i.e.: National Flood Insurance Program), and the status of those authorizations.

No other authorization is known for this project.

Estimated starting date of project:	Estimated completion date:
As soon as a permit can be acquired. March 2013	May or June 2013 depending on the permit and weather.

Please complete the following checklist

Failure to indicate that all pertinent information has been submitted will result in your application being returned.

- ☑ Appropriate application processing fee payment (see fee schedule below).
- ☑ A clear site location map with enough detail to easily find the site, a recent aerial/satellite image of the site, and a USGS topography map (7.5 minute quadrangle map is recommended).
- ☑ Plan view and cross-sectional drawings showing all work requiring a permit, including fills, structures, borrow sites, staging areas and storage areas. The drawings must clearly demarcate the ordinary high water mark of the waters of the U.S. to be impacted. Professional drawings are not required; however, drawings must be scaled or indicate dimensions of the work to be completed.
- ☑ A restoration plan for any areas temporarily disturbed during work, including re-contouring, revegetation with appropriate native plants and maintenance and monitoring to ensure success for the restored area.
- ☑ Ground photographs taken from various locations of the proposed disturbance area. See google aerial photos
- ☑ Please check the box if the proposed project involves bank stabilization or protection. If so, please complete the following:
  - ☑ A narrative demonstrating the proposed activity incorporates the least damaging bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody debris, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to aquatic organisms.

- ☑ A description of current and expected post-activity sediment movement and deposition patterns in and near the activity area.
- ☑ A description of current and expected post-activity habitat conditions, including the presence of fish, wildlife and plant species in the activity area.
- ☑ An assessment of the likely impact the work would have on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Specifically, discuss how the project will impact the following:
  - Will the activity accelerate deposition or erosion?
  - Will impacts to sensitive species or habitats result from a change in suspended sediment load or turbidity?
  - Will the activity affect the diversity of the channel by eliminating in-stream habitat, meanders, or gravel bars?
  - Will the activity result in a shift in the main flow patterns?
- ☑ A planting plan which involves the use of native riparian plants, unless the applicant demonstrates it is not appropriate or not practicable.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or am acting as the duly authorized agent of the applicant which is a **(check one of the following) commercial ☐, non-commercial ☒, or governmental ☐ entity.**

Signature of Applicant Trista Sellville Date: 2/6/13

I hereby certify that _____ is acting as my agent on this project.

Agent's address and telephone number: _____

Filing Instructions

Application supplements should be submitted on paper no larger than 11 x 17 inches or alternatively as PDF format electronic files. If more than one watercourse is to be altered as a result of the project, a separate application must be submitted for each watercourse. Application fees must be received by the Division of Water Rights at the time of application submission and must be either hand delivered or submitted through standard mail.

Application Processing Fees

Application fees are based on the type of entity applying for the proposed stream alteration project.

Commercial Entities:	$2000.00	per application processed.
Non-Commercial Entities:	$100.00	per application processed.
Governmental Entities:	$500.00	per application processed.

Tristan DeMille
Stream Alteration Permit
Washington County
Rockville, Utah

Narrative

Bank Protection

Based on the damage to and removal of deep rooted vegetation and trees planted about 30 years from recent floods, rock rip or gabions seem to be the best option to protect the stream bank. The bank protection proposed is not along the present stream flow, plantings at the toe of the hard surfaced protection will have a good chance of survival and rapid growth. Based on the past history of riprap along the river banks it is anticipated that there will be good growth of willows at the toe.

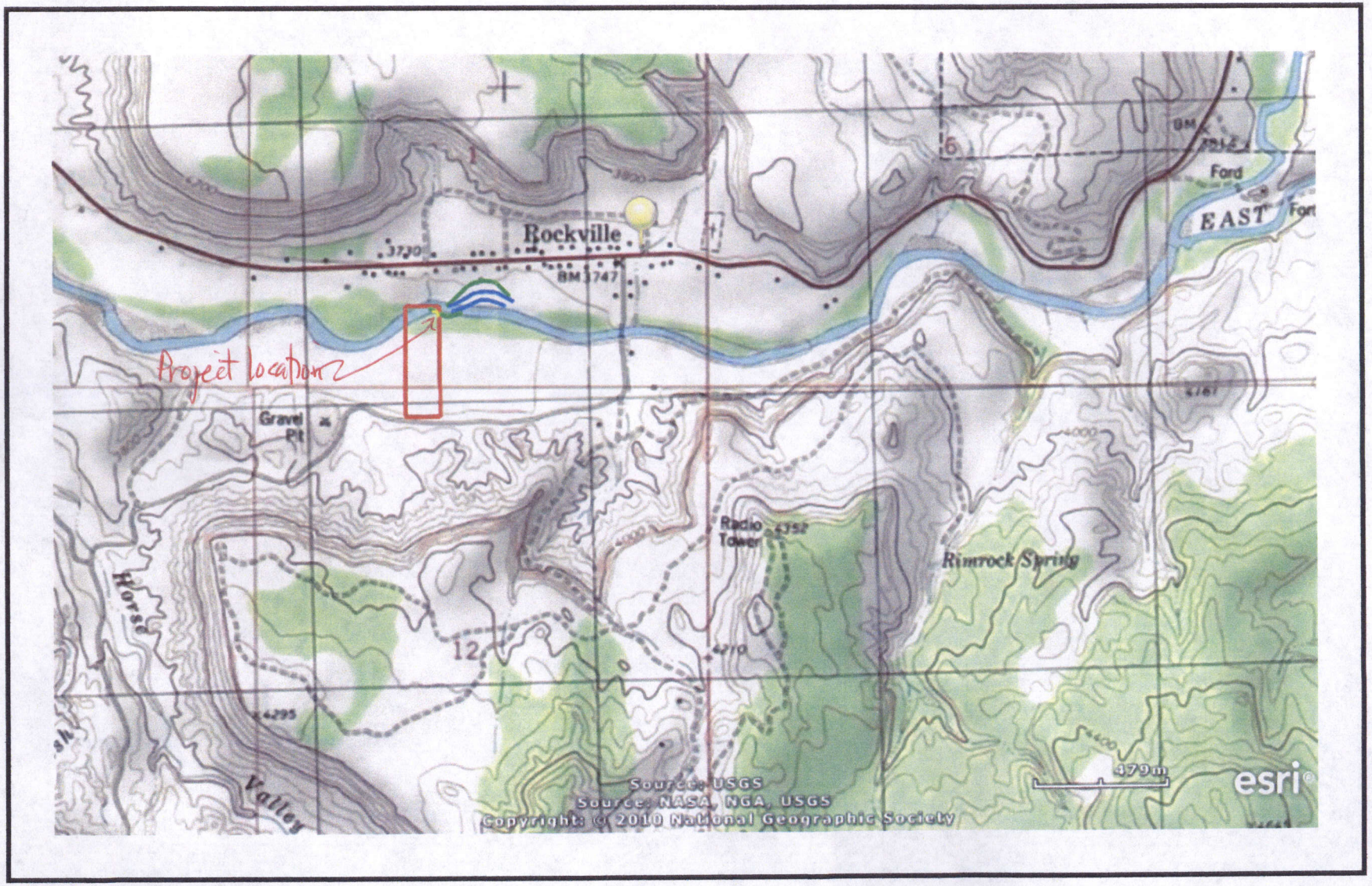
Post Sediment Movement

It is anticipated that there will be a decrease in sediment movement as a result of protecting the stream bank from erosion.

Existing Habitat

The protection of the exposed sandy bank will have a positive impact.

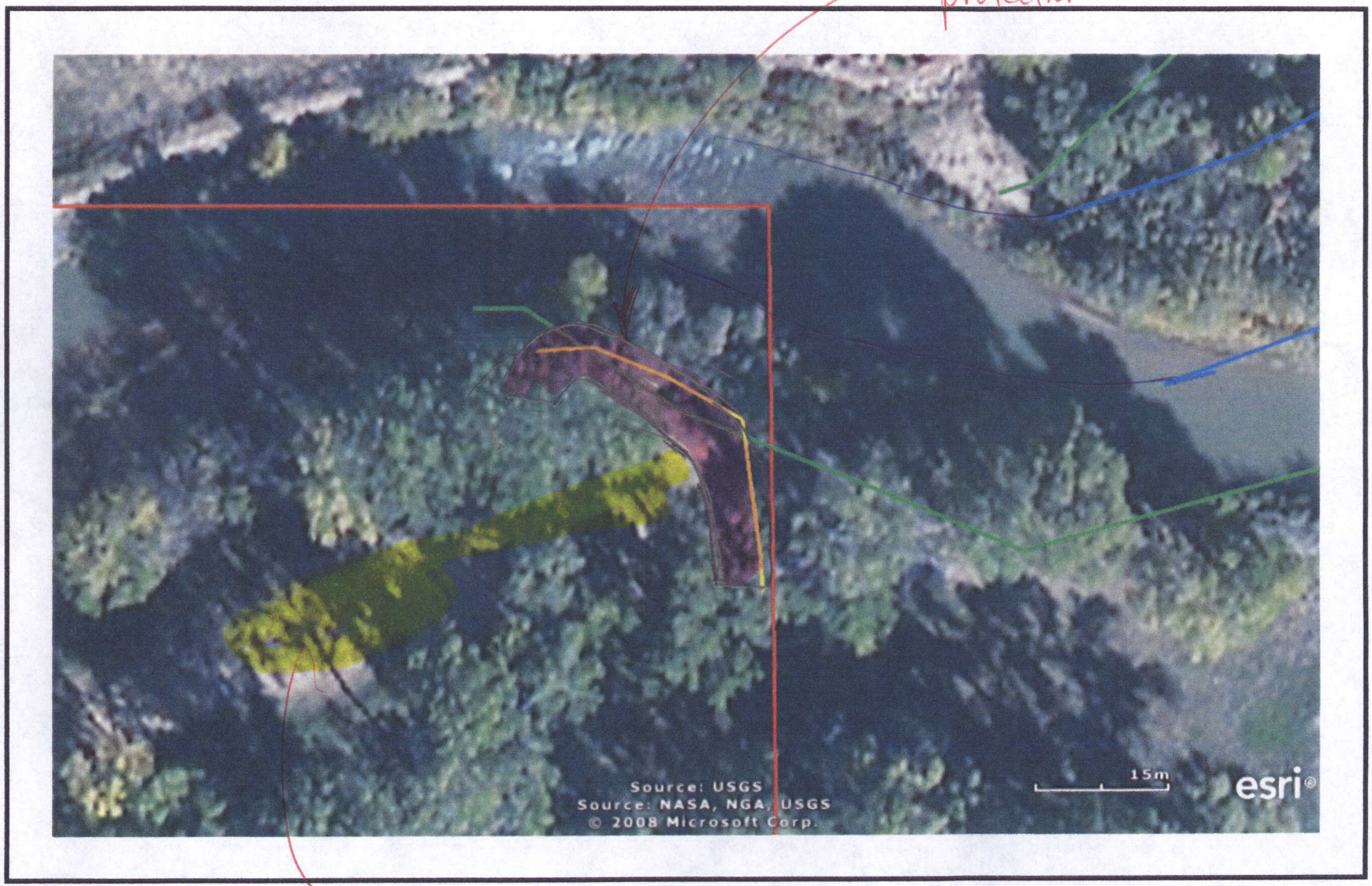
- Erosion of the bank will be decreased and existing farm land will be saved.
- Protecting the bank will allow trees and willows to grow back. The bank will be stabilized and sedimentation downstream will decrease.
- Minimal or no impact on gravel bars or stream habitat.
- The bank protection will help hold the stream within its established flow pattern.


Project location
Rockville
BM 3747
Ford
EAST
Gravel Pit
Radio Tower
Rimrock Spring
Horse
Valley
Source: USGS
Source: NASA, NGA, USGS
Copyright: © 2010 National Geographic Society
479m
esri


Staging area
In clearing (No trees will need to be Removed)
alterate access
access
Source: USGS
Source: NASA, NGA, USGS
2008 Microsoft Corp.
463ft
esri


Green Represents 2010-2011 Flood damage
Blue Represents New alignment completed by NRCS 2011. yellow is the proposed bank protection
Rockville
Bank Protection
DeMille Property
Source: USGS
Source: NASA, NGA, USGS
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Com
Copyright: © 2012 Esri, DeLorme, NAVTEQ, TomTom
153m
esri

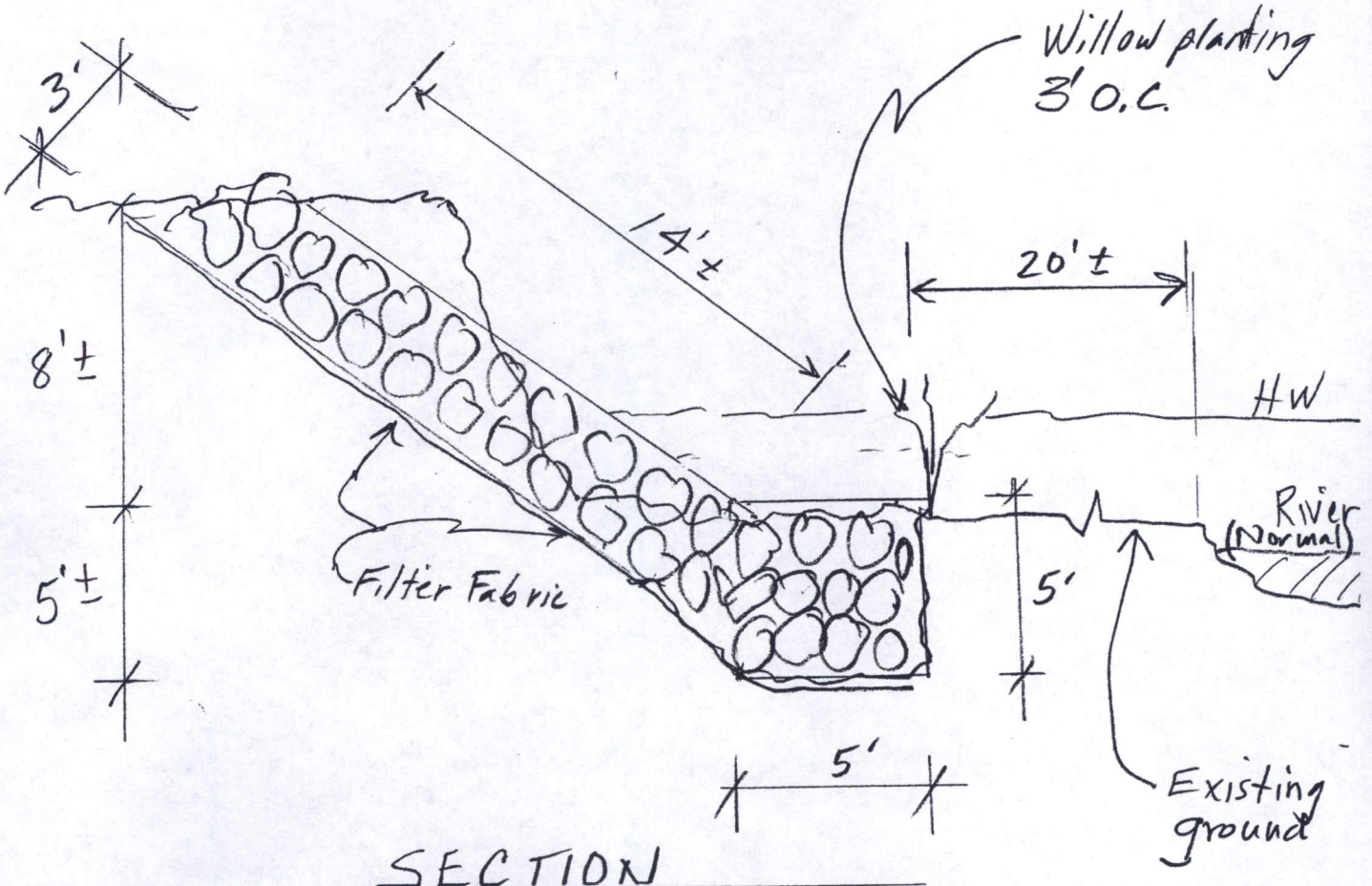

Currently a Vertical Sandy Bank
Trees are gone
Proposed riprap location
Current Stream location
Image State of Utah
© 2013 Google
Google earth
Google earth
feet
meters
400
100
Current Stream location
Banks after 2010-2011 Floods


Proposed Bank protection
Staging area
Source: USGS
Source: NASA, NGA, USGS
© 2008 Microsoft Corp.
15m
esri

Jones & DeMille Engineering
Richfield • Price • Manti • Roosevelt
800.748.5275
www.jonesanddemille.com

Project:	DeMille Bank Protection	Page:	
Location	Rockville DeMille Field	Date:	2/6/13
Product:	x Section	By:	TD
Client:		Checked:	

Scale 1" = 5'



SECTION

Square feet / foot ≈ 75

Cubic yards / foot ≈ 2.8

Length 140'

Cubic yards ≈ 400 cubic yards

Cubic yards below Normal HW ≈ 250 cubic yards

Length 145' ±